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ABSTRACT

This paper describes an activity-based program that teaches students in grades 4-12 about the importance of Maine agriculture in their lives. Specifically, the goal is to increase student awareness of how the foods they eat are planted, harvested, and processed. The emphasis is on crops grown in Maine such as potatoes, broccoli, peas, blueberries, honey, apples, and pumpkins. Learning activities across the curriculum include developing map skills, studying the history of agriculture in Maine's economy and the local community, studying the healthful benefits of honey, examining different ways of preparing foods for later use, discovering the growing cycles of fruits and vegetables, examining methods of harvesting fruits and vegetables, writing advertisements for agricultural products, and studying the role of the Maine Department of Agriculture. After 2 weeks of classroom discussions, a field day is planned. Students are divided into groups and each group is placed in rotating stations covering potato picking, broccoli harvesting, potato prints, pumpkin painting, potato candy, french fries, blueberry pancakes, corn on the cob, apple crisp, and barrel rolling and hoisting. After 2 days of hands-on activities, the students and school lunch director develop a balanced meal with Maine products. The meal is then evaluated for its nutritional value through computer analysis. Includes a list of materials needed and cost of program implementation. (LP)

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'MAINE AGRICULTURAL FOODS'

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Project SEED

the Center
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GENERAL PHILOSOPHY

Maine Agricultural Foods is an activity-based program using cooperative and collaborative skills effectively to provide students (4-12) with an awareness of the importance of Maine agricultural in their daily lives. This program involves the multi-facets in planting, harvesting, processing, nutritional values, and the various ways to prepare the products for consumption. This lends to an understanding of the role agriculture plays in state and local economies. A student's awareness of their dependence on these agricultural resources is essential knowledge for their everyday lives.

GENERAL DESCRIPTION

Maine Agricultural Foods is an integrated unit designed to show students what and where agricultural products are grown in the state of Maine. The emphasis of this unit involves Aroostook county crops: potatoes, broccoli, peas, and various garden vegetables. Yet, it is inclusive of other Maine products such as blueberries, honey, apples, and pumpkins.

GOALS

The value of this project is a hands-on learning style, elevation of student awareness of how foods they eat are planted, harvested, processed. The nutritional value of foods students prepare in different ways such as boiling, frying, and

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baking is compared through computer analysis.

Another goal is to provide real-life situations to make students interactive learners by participating in the many aspects of the agricultural procedures and processes such as potato picking (manual and mechanical techniques) and broccoli harvesting field trips.

Outcomes

Teachers who adapt this program should see an increase in the interest of our future consumers both in production and purchasing levels in their daily lives. This connects students to the roots of their survival including health, nutritional values, basic food needs, and correct food preparation.

Students acquire computer knowledge, skills in various methods of food preparations, an exposure to different art mediums with agricultural products as a basis, and economic awareness of the daily agendas of farmers.

Teachers experience integration of the curriculum, initiate writing across the curriculum for students, and develop a positive working relationship with the exploratory/allied arts staff.

School and community take on an active role in developing student experiences. Local farmers and businesses contribute products and their expertise to demonstrate their commitment to education.

PROCEDURES AND INSTRUCTIONS

Our project involved a series of classroom discussions and presentations before any hands-on activities occurred.

The following sessions were developed and presented two weeks prior to our field day.

SOCIAL STUDIES

1. Map skills to identify specific towns/areas in Maine that grow a particular crop/product.
2. History of potato farming in Aroostook county and Limestone, Maine.
3. History of agriculture in Maine's economy and local community.
4. Present influence of agriculture in counties and state of Maine.
5. Comparison of agriculture vs forestry.

HEALTH

1. Nutritional value of foods analyzed using computers.
2. Stress of basic food groups and importance of fruit and vegetables in daily life.
3. Healthful benefits of honey.

ART

1. Use of different vegetables and fruits as an art medium.
2. Carving techniques for prints.
3. Painting techniques on pumpkins.

HOME ECONOMICS

1. Different ways of preparing foods for later use: freezing, canning, cold storage, dehydrating.

2. Preparing menus using fruits and vegetables in a balanced diet.

3. Various methods in preparing fruit/vegetable for example blueberry pie, blueberry muffins, blueberry pancakes, blueberry bread.

4. Nutritional importance of each developed fruit/vegetable.

5. Alternative preparations of fruit/vegetable-comparing today to the past practices(dehydration/freezing).

SCIENCE

1. Study of growth of plants/photosynthesis/water cycle/nitrogen cycle.

2. Study of honeybees and pollination.

3. Study of herbicides/pesticides/fungicides and role in fruit/vegetable production.

4. Different research programs involving Maine agriculture(hydroponics).

5. Soil types/drainage needed for plants.

6. Growing cycles of fruit/vegetables.

7. Diseases of fruits/vegetables.

8. History of honey.

VOCATIONAL AGRICULTURE

1. Methods of harvesting fruits/vegetables (past and present).

2. Safety measures on machines and personal safety methods used in harvesting.

3. Long term storage methods of fruit/vegetables for the future use of consumers.

4. Alternative preparations fruit/vegetables(apple cider,processing of honey).

5. Processing plant description-going through raw to finished product.

MATH

1. Description of measurement tools in fruit/vegetable (acre, bushel).

2. Graphing of fields/farms of county involving fruit/vegetable.

3. Understanding of ratios used in spray materials for crops.

4. Discussion and models of grading system in potatoes by size and diameter.

5. Presentation of weight used in shipping (hundred weight).

6. Volume associated with a potato barrel.

7. Survey accomplished by student's at a local store of Maine fruit/vegetable product.

8. Understanding measurements in a recipe.

LANGUAGE ARTS

1. Writing either a descriptive or detail piece on perceptions of the process of harvesting and its impact on their personal lives.

2. Write a poem dealing with a fruit/vegetable.

3. Readings involving farming and written summations as follow-up.

4. Writing advertisements for a specific product.

5. Creating a school menu for a day utilizing state

products.

6. Gathering recipes and using word processor for creation of a cookbook.

7. Establish cooperatively criteria for evaluation of projects(rubric).

MISCELLANEOUS

1. Study of role of Maine Department of Agriculture.

2. Discuss role of Maine Soil and Water Conservation in relation to crops.

3. Study of Maine's blueberry harvest and compare past practices to present methods.

4. Role of University of Maine and research affecting fruits/vegetables.

5. Different procedures used in the marketing of fruits/vegetables and its impact on the economy.

6. Spin-off products from fruit/vegetable(blueberry pottery, potato baskets lined and used as a magazine holder).

7. Watching movie on past agricultural harvesting techniques.

8. Technologies impact on producers/processors/consumers.

FIELD DAY

Students were divided into groups and each group was placed in a rotation of stations. Time spent in each activity varied.

Stations were:

1. Potato picking
2. Broccoli harvesting
3. Potato prints
4. Pumpkin painting
5. Potato candy
6. French fries
7. Blueberry pancakes
8. Corn on the cob
9. Apple crisp
10. Barrel rolling/hoisting

LUNCH DAY

After two days of activities, the third day involved the school menu and noon lunch. The students and school lunch director developed a balanced meal with as many Maine products in the menu as possible. This included baked potatoes, broccoli and cheese, blueberry muffins, fresh apples, pumpkin pie, and a choice of a sandwich. The meal was evaluated for nutritional value. This was the culminating event of this program.

TIME

The amount of time spent on this program will depend on integration of the curriculum, how much time will be allocated on each area of development, and grade levels involved in the program. This project could be completed in as little as one day or two to three weeks depending on the amount of exposure and development you wish to provide your

students. It could be simple or as detailed as the needs of the students dictate.

MATERIALS

A computer with a printer and word processor is essential. A VCR is optional. Bags, fruits, vegetables, cooking supplies were either donated or brought in by the students. Either classroom or home economics room can be used for making food products. Art materials can be accessed from the art room.

PROJECT COST

The number of students participating in the program will directly determine the expense of your project. If goods are not donated, this project could cost up to $500-$1000 for seventy five students. If goods are donated, $50-$200 would be minimum cost.

WRAP-UP

This project is valuable to students who are concerned with their food, how it is planted, harvested, and processed. In an agricultural community, the benefits are economical awareness of fruits/vegetables being the family's staple and main source of income.

Maine Foods project crosses all subjects and is

easily adaptable to any grade level depending on availability of fruit/vegetable. The hands-on experiences of actively harvesting and cooking is most enjoyable for students and staff. The creativity of preparing foods, new recipes, new storage techniques, and our health conscious society can make this project memorable. We recommend that teachers and students modify our ideas to fit their community and their school. HAVE FUN !!